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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,444	08/13/2001	Nicholas A. Ward	6217/CONSILIU/DV	4154

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APPLIED MATERIALS, INC.  
2881 SCOTT BLVD. M/S 2061  
SANTA CLARA, CA 95050

EXAMINER
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SHECHTMAN, SEAN P

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/927,444

Applicant(s)

WARD ET AL.

Examiner

Sean P. Shechtman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 45-52 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 45-52 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) •
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. Claims 45-52 are presented for examination.

***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 45-46 and 49-50 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,126,028 to Hurwitt.

Referring to claims 45 and 49, Hurwitt teaches a method and system of fabricating semiconductors (Col. 3, lines 10-37; Col. 4, lines 28-30) comprising: receiving data from a semiconductor fabrication tool directed to qualities of a process occurring within the semiconductor fabrication tool (Col. 12, lines 21-37; Col. 12, line 61- Col. 13, line 33); a first semiconductor fabrication tool, wherein the first semiconductor fabrication tool comprises a first and second chamber configured to perform at a process on a semiconductor wafer (Col. 12, lines 9-20; Fig. 2 and Fig. 4; Col. 12, lines 38-60); and a software application (Col. 12, lines 21-37; Col. 12, line 61- Col. 13, line 33), in communication with the first semiconductor fabrication tool, configured to determine first and second specified qualities of the first and second chamber in performing the process, wherein the first and second specified qualities are directed to a processing time required to perform the process (Col. 23, lines 15-29); and wherein the software application is further configured to make accessible information relating to the first and second specified qualities of the first and second chambers (Col. 12, lines 21-37; Col. 12, line 61- Col. 13, line 33; Col. 13, lines 52-60; Col. 23, lines 15-29); and wherein the software application is configured to receive a request from an external application to qualify the first and second

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chambers for a first requested process (Col. 12, lines 21-37; Col. 12, line 61- Col. 13, line 33; See Fig. 5C, F1 "QUALIFY"; Col. 17, lines 21-29; Col. 23, lines 15-29). Hurwitt teaches parameters are displayed separately for each processing chamber (Col. 16, lines 15-16). Examiner respectfully notes page 2, lines 3-4 of the instant specification, wherein applicant teaches that the process and tool controller can include the software applications.

Referring to claims 46 and 50, Hurwitt teaches the system above, wherein the software application is further configured to receive a request to perform a first requested process and select one or more of the first and second chambers to perform the first requested process based on specified preferences which form part of the request and on the information relating to the first and second specified qualities of the first and second chambers (Col. 23, lines 15-29; Col. 14, lines 50-63' Col. 15, lines 1-2; Col. 21, lines 1-62).

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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3. Claims 45-46 and 49-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,604,012 to Cho in view of U.S. Pat. No. 6,429,783 to Reyes.

Referring to claims 45 and 49, Cho teaches a method and system of fabricating semiconductors (Col. 1, lines 20-28 of '012) comprising: a first semiconductor fabrication tool (Col. 1, lines 55-60 of '012), wherein the first semiconductor fabrication tool comprises a first and second chamber (Col. 14, lines 19-67; and see figure 2, etchers 310a, 310b...310m of '012) configured to perform at a process on a semiconductor wafer (Col. 1, lines 55-60; Col. 8, lines 22-57 of '012); and a software application (Col. 8, lines 57-60; Col. 17, lines 32-45 of '012), in communication with the first semiconductor fabrication tool, configured to determine first and second specified qualities of the first and second chamber in performing the process, wherein the first and second specified qualities are directed to a capability index of the process (Col. 3, lines 41-51; Col. 9, lines 22-37; Col. 10, lines 14-21; Col. 12, lines 8-15; Col. 18, lines 15-29 of '012); and wherein the software application is further configured to make accessible information relating to the first and second specified qualities of the first and second chambers (Col. 13, lines 35-60 of '012). Examiner respectfully notes page 2, lines 3-4 of the instant specification, wherein applicant teaches that the process and tool controller can include the software applications.

The examiner respectfully submits that the claims, as such, do not require that the request to qualify the chambers be functionally related to the specified qualities. Furthermore, the examiner respectfully submits that the claims, as such, do not require the first and second chambers to be the same or different chambers, and further, the claims, as such, do not require the first and second specified qualities to be the same or different qualities.

Referring to claims 46 and 50, Cho discloses the system above, wherein the software application is further configured to receive a request to perform a first requested process and select *one of the* first and second chambers to perform the first requested process based on specified preferences which form part of the request and on the information relating to the first and second specified qualities of the first and second chambers (Col. 3, lines 26-34 of '012).

Referring to claims 45 and 49, Cho teaches all the limitations disclosed above, however, Cho fails to teach the software application is configured to receive a request from an external application to qualify the first and second chambers for a first requested process.

However, referring to claims 45 and 49, Reyes teaches analogous art, comprising a software application configured to receive a request from an external application to qualify a first and second chamber for a first requested process (Col. 3, lines 49-65; Col. 6, lines 30-39; Col. 7, lines 1-9; Col. 7, lines 16-37; Col. 1, lines 31-51; Col. 7, lines 52-63).

Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to combine the qualification request teachings of Reyes with that of semiconductor fabrication system and method of Cho. One of ordinary skill in the art would have been motivated to combine these references because Reyes teaches an apparatus that continually indicates the operational status of the tool to which it is attached, including a qualification status. Furthermore, Reyes teaches sections for indicating an operational status for each chamber of a multi-chamber tool (Col. 3, lines 34-65). Thus providing efficient communication and avoiding any confusion about the actual status of the tool (Col. 3, lines 21-30; Col. 1, lines 28-30).

4. Claims 47 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,126,028 to Hurwitt, as applied to claims 45-46 and 49-50 above, and further in view of U.S. Pat. No. 6,074,443 to Venkatesh. Claims 47 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,604,012 to Cho in view of U.S. Pat. No. 6,429,783 to Reyes, as applied to claims 45-46 and 49-50 above, and further in view of U.S. Pat. No. 6,074,443 to Venkatesh.

Referring to claims 47 and 51, Hurwitt and Cho/Reyes teach all the limitations disclosed above, however fail to teach that the software application is further configured to generate detailed status information that includes information relating to the first specified qualities of the first chamber and relating to maintenance information of the first chamber.

However, referring to claims 47 and 51, Venkatesh discloses analogous art, wherein a semiconductor fabrication system and method (Col. 1, lines 21-25) comprises: a first semiconductor fabrication tool (Col. 1, lines 34-40; Col. 3, lines 28-32), wherein the first semiconductor fabrication tool comprises a first and second chamber (See fig. 1) configured to perform a process on a semiconductor wafer (Col. 1, lines 41-65; Col. 3, lines 28-32); and a software application (Col. 7, lines 15-26), in communication with the first semiconductor fabrication tool, configured to determine first and second specified qualities of the first and second chamber in performing the process, wherein the first and second specified qualities are directed a processing time required to perform the process (Col. 3, lines 63-66); and wherein the software application is further configured to make accessible information relating to the first and second specified qualities of the first and second chambers (Col. 7, lines 1-26);

wherein the software application is further configured to generate detailed status information that includes information relating to the first specified qualities (Col. 3, lines 50-55 of '443) of the first chamber and relating to maintenance information of the first chamber (Col. 2, lines 60-63 of '443).

Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to further modify the teachings of Hurwitt and Cho/Reyes with that of Venkatesh. One of ordinary skill in the art would have been motivated to combine these references because Venkatesh teaches prioritizing wafer movement through a tool such that the tool's overall throughput is improved (Col. 3, lines 28-36 of '443).

5. Claims 48 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,126,028 to Hurwitt in view of U.S. Pat. No. 6,074,443 to Venkatesh, as applied to claims 47 and 51 above, and further in view of U.S. Pat. No. 6,618,692 to Takahashi. Claims 48 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,604,012 to Cho in view of U.S. Pat. No. 6,429,783 to Reyes in view of U.S. Pat. No. 6,074,443 to Venkatesh, as applied to claims 47 and 51 above, and further in view of U.S. Pat. No. 6,618,692 to Takahashi.

Referring to claims 48 and 52, Hurwitt/Venkatesh and Cho/Reyes/Venkatesh teach all the limitations disclosed above, however fail to teach that the software application is further configured to receive a request from an external application to access the detailed status information and configured to make available only a pre-defined portion of the detailed status information to be accessed by the external application.



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However, referring to claims 48 and 52, Takahashi teaches analogous art, comprising the instructions for: (a) receiving, over the Internet, a request from an external application to access information relating to the first specified qualities of said step (2); and (b) making available only a pre-defined portion of the information (Col. 8, lines 49-65; Col. 9, lines 1-32 of '692) to be accessed by the external application using an encryption application (Col. 7, line 27 - Col. 8, line 48 of '692).

Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to further modify the teachings of Hurwitt/Venkatesh and Cho/Reyes/Venkatesh with that of Takahashi. One of ordinary skill in the art would have been motivated to combine these references because Takahashi teaches a remote diagnostic system which aims to achieve both high security of information and prevention of economic losses (Col. 3, lines 36-40 of '692).

### *Conclusion*

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean P. Shechtman whose telephone number is (571) 272-3754. The examiner can normally be reached on 9:30am-6:00pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SPS

Sean P. Shechtman

October 29, 2004



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